

Amendments to the Specification

Please amend the title as follows.

OPTICAL DISC, HAVING A CERTIFICATION PIT FOR CERTIFYING THAT DATA RECORDED THEREON IS ORIGINAL-REPRODUCTION APPARATUS, AND DISC IDENTIFIER SELECTING APPARATUS

Please amend the paragraph beginning at page 1, line 13, as follows:

Manufacturers who ~~records~~ record digital copyrighted materials, such as game software and movies, on optical discs pay great attention to the prevention of casual copying by ordinary users. The casual copying refers to user's operations where the users interconnect personal computers with commercially available reproduction apparatuses and recording apparatuses, read data from optical discs, such as CD-ROMs and DVD-ROMs, and write the read data on rewritable discs, such as hard disks, CD-Rs, and DVD-Rs. As can be seen from this, the casual copying does not require specialized equipments equipment and so it is possible for the users to perform the casual copying. If the casual copying is performed by many users, the optical disc industry will suffer great economical losses. Therefore, the manufacturers exert their best efforts to prevent the casual copying by processing digital copyrighted materials before recording the materials on optical discs. For instance, the digital copyrighted materials are encrypted using identification information unique to the optical discs.

Please amend the paragraph beginning at page 10, line 21, as follows:

Fig. 1 shows the appearance of an optical disc 1 of the present embodiment. The recording area of the optical disc 1 is broadly divided into two areas: a data area 2 that records digital data ~~composing a~~ including digital copyrighted materials, and a specific area 3. The data area 2 includes N (=5) processed areas 4-8 that have been processed to protect a copyright on the digital copyrighted material.

Please amend the paragraph beginning at page 12, line 26, as follows:

The concave pits and convex pits in the data area 2 are irradiated with laser light and an RF (Radio Frequency) signal, shown in Fig. 3B, is obtained by electrically converting a reflection light obtained by the irradiation. In general, an RF signal is obtained by electrically converting a reflection light into an electric signal and by equalizing the amplitude of the electric signal. The RF signal is converted into a binary signal using a threshold value M and the binary signal is subjected to 8-16 demodulation processing and error correction processing. In this manner, data composing a digital copyrighted material is obtained. Next, the processed areas 4-8 are described. Fig. 4 shows concave pits and convex pits formed in the processed area 6. In this drawing, the processed area 6 has a construction where a convex pit A and a concave pit B, each of which has a length $1T-2T$, are arranged with a distance "length X" therebetween. TheThese concave pit and convex pit can be easily formed with a recording waveform that is shorter than that regulated during the production of the optical disc. The lengths ($1T-2T$) of these pits are shorter than those ($3T-14T$) of normal pits. Therefore, during the reading with an optical pickup, the RF signal obtained from the convex pit A and concave pit B does not have enough high and low levels, unlike the RF signal obtained from the normal pits. Especially note that such an RF signal that does not have enough high and low levels cannot be reproduced by a commercially available reproduction apparatus and cannot be copied to another optical disc by a commercially available recording apparatus. This is because the commercially available reproduction apparatus reads concave pits and convex pits having a length $3T-14T$ from an optical disc and the commercially available recording apparatus records concave pits and convex pits having a length $3T-14T$ on a rewritable disc. When a RF signal is obtained from concave pits and convex pits having a length shorter than a normal pit length, the commercially available reproduction apparatus and recording apparatus regard the RF signal as an irregular RF signal and converts it into a regular RF signal by performing error correction processing during reproduction and recording. As a result, the concave pit and convex pit having a length $1T-2T$ are not copied to a rewritable disc by casual copying.

Please amend the paragraph beginning at page 16, line 15, as follows:

The signal reproduction unit 52 includes an optical pickup and obtains an RF signal by irradiating laser light onto the concave pits and convex pits on the optical disc and receiving reflection light. Fig. 6 shows an example of the RF signal that is obtained when the pit string shown in Fig. 4 is read. Because each of the convex pit A and concave pit B has a length less than $2T$, the reflection light obtained by irradiating laser light onto these pits does not have high enough brightness and darkness levels. Therefore, as shown on the first level in Fig. 6, the RF signal obtained from the reflection light includes peaks X and Y that do not have high enough amplitude levels.

Please amend the paragraph beginning at page 17, line 11, as follows:

The binary signal M3 obtained using the threshold value M includes no high section corresponding to the peak X and no low section corresponding to the peak Y. The binary signal H3 obtained using the threshold value H does not include a high section corresponding to the peak X₂ but includes a low section corresponding to the peak Y. The binary signal L3 obtained using the threshold value L includes a high section corresponding to the peak X₂ but does not include a low section corresponding to the peak Y.

Please amend the paragraph beginning at page 30, line 3, as follows:

The comparator 23 generates a binary signal H1 from the RF signal using a threshold value H and outputs the binary signal H1. The first level in Fig. 17B shows an example of the threshold value H that is set for the RF signal. As can be seen from this drawing, the threshold value H is obtained by adding the offset α to the threshold value M. Therefore, although being converted into a binary signal with the threshold value M, the peak P is not converted into a binary signal with the threshold value H. The third level in Fig. 17B shows the binary signal H1 generated by the comparator 23 from the RF signal. As can be seen from the second, third, and fourth levels in Fig. 17B, the binary signal M1 includes a low section sandwiched between points A0 and A1, the binary signal H1 includes a low section sandwiched between points A2 and A3, and the binary signal L1 includes a low section sandwiched between points A4 and A5. Therefore, the

low section included in the binary signal M1 is shorter than that included in the binary signal H1, but is longer than that included in the binary signal L1.

Please amend the paragraph beginning at page 31, line 3, as follows:

As can be seen from this, although the binary signals M1, L1, and H1 that are generated from the RF signal obtained by reading the track having the shape shown in Fig. 10D ~~includes~~ include low sections having different lengths, the binary signals M2, L2, and H2 that are generated from the RF signal obtained by reading the track having the shape shown in Fig. 10A or Fig. 10B ~~includes~~ include low sections having similar lengths.

Please amend the paragraph beginning at page 35, line 19, as follows:

It should be noted here that a disc identifier may be convex pits, on each of which a reflection layer of 1T-2T remains, as shown in Fig. 21. The RF signal obtained from these pits by the irradiation of laser light does not have ~~an~~ a high enough amplitude level. Therefore, whether an optical disc to be reproduced is legitimate can be judged by processing the RF signal using a threshold value L.

Please amend the paragraph beginning at page 35, line 26, as follows:

Also, as shown in Fig. 22A, a disc identifier may be recorded by applying a low reflection material on a certain disc surface area to suppress the amount of reflection light from a pit string under the disc surface area. In this case, the amount of reflection light from the pit string becomes insufficient during the reading of both ends of the pit string with laser light, so that the RF signal corresponding to these ends does not have ~~an~~ a high enough amplitude level. Also, if the surface of a disc vibrates during reproduction, variations are generated in the binary signal generated from the RF signal. Fig. 22B shows an RF signal that includes peaks H and I, each of which does not have ~~an~~ a high enough amplitude level. Because the peaks H and I correspond to the ends of the pit string under the certain disc surface area, these peaks are converted into a binary signal L using the threshold value L that is lower than the threshold value M. Then, it is judged

whether the optical disc to be reproduced is legitimate by detecting pulses of the binary signal L that correspond to the peaks H and I.

Please amend the paragraph beginning at page 36, line 21, as follows:

The present embodiment relates to a technique in which threshold value setting information is recorded along with physical character information in the specific area 3. The threshold value setting information shows that a reproduction apparatus of the present embodiment ~~need~~ needs to change the threshold value M to the threshold value L. Here, like the above embodiments, the threshold value L is lower than the threshold value M. The reproduction apparatus reads the threshold value setting information along with the N pieces of physical character information from the specific area 3. The reproduction apparatus then changes the threshold value M to the threshold value L before reading each pit string corresponding to one of the N pieces of physical character information. After each corresponding pit string is read, the reproduction apparatus returns the threshold value L to the threshold value M. Figs. 23 and 24 respectively show states before and after the threshold value M is changed to the threshold value L. As is apparent from these drawings, peaks E, F, and G, each of which does not have ~~an~~ a high enough amplitude level, can be detected by changing the threshold value M to the threshold value L.